



Analysis of Modeling & Simulation

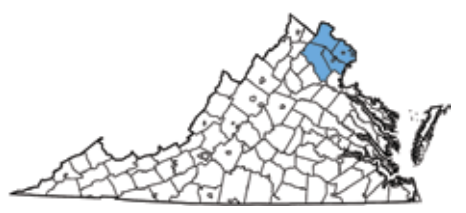
NORTHERN VIRGINIA REGION

REPORT SUMMARY

The ASTA Group, LLC • November 2014

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Northern Virginia Regional Overview



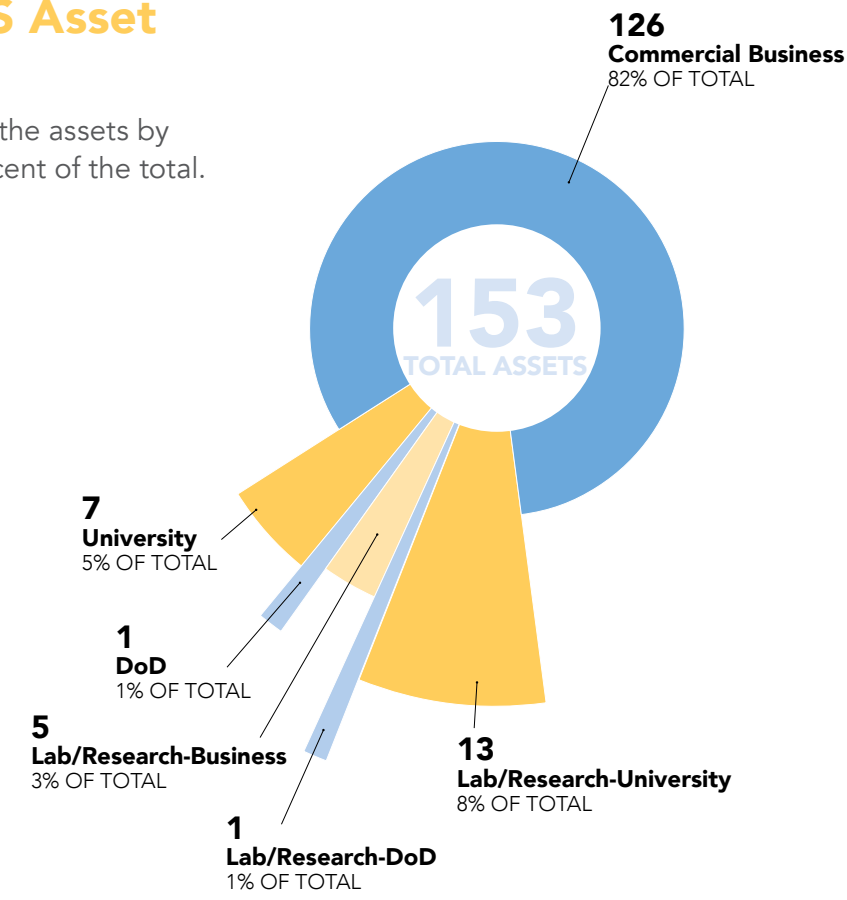
In the Northern Virginia region, M&S is somewhat lost in a crowd of other industries, priorities, associations and networks. Personal face-to-face networking is viewed as particularly important to conducting and growing business in this region. Regional affluence and resources, including education, attract skilled students and workers, and promote employee recruitment and retention.

Asset Summary

There are 153 assets identified for this region. They include commercial businesses, laboratory or research organizations, universities and DoD assets.

Regional M&S Asset Distribution

The pie chart presents the assets by category type and percent of the total.



Regional Employment in M&S

Approximately 22% of the Northern Virginia region's total employment is employed in M&S related sectors. Between 0.22% and 0.37% of the total employment is M&S specific.

Among the M&S industry sectors, *Computer Systems Design Services* has the greatest proportion of M&S employment in the Northern Virginia region, followed by *Management, Scientific & Technical Consulting Services*; *Custom Computer Programming Services* and *Architectural, Engineering & Related Services*.

Economic Impact

The M&S contribution to the Northern Virginia GRP is estimated at \$14.3-\$23.3 billion. The total economic impact of M&S on the regional economy is estimated at \$21.2-\$34.2 billion.

Growth projections for M&S industry sectors within the Northern Virginia region range from 15% to 20% through 2020. Analyses project that the region will add 619 to 1,053 new M&S specific jobs from 2011-2020.

Market

Obstacles to marketplace expansion include getting a foothold in new markets. Study participants identified several needs, including expanding opportunities to meet potential customers, developing a mutual understanding of needs and capabilities, and identifying potential new buyers of M&S products and services. Product fields ready for commercialization include those involving gaming, finance, automotive, social networking, emergency planning and big data management and analysis.

M&S Workforce

Companies look to capitalize on the STEM efforts associated with the area, and the pool of qualified candidates has strengthened. Lack of affordable housing and transportation issues negatively impact employee retention. Computer programmers, software developers, programmers and researchers are reported as being difficult to recruit or retain in employment.

M&S Networking and Collaboration

Extensive networking and collaboration takes place in Northern Virginia but is not necessarily driven by common interests in M&S. Small pockets of the M&S community exist, but there is no regional community network, especially outside of DoD. University-business collaboration sometimes hits a roadblock because classified-materials work cannot be performed by interns.

Solutions

Stakeholders would like to see an increase in funding to a local organization to establish a regional M&S center of excellence, and to promote data centers with super-computing power for large M&S models. Other suggestions include forming relationships with university and venture capital areas (to explore sensors, data collection, calibration of human judgment) and sponsoring networking opportunities for providers and potential customers.

Stakeholders would like Northern Virginia to become a fiber hub and for Virginia to extend fiber connectivity to all rural areas. The laying of fiber and other broadband foundations would enable the transmission of models to super-computing facilities.



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Report Description

This report provides regional highlights of a 2013 study undertaken to assess the state of Modeling and Simulation (M&S) within Virginia, analyze its economic impact, and identify projected growth areas. The study produced an inventory of Commonwealth M&S assets, a survey of M&S business regionally, economic analyses of the M&S sector and workforce, and a meta-analysis of previous studies. Focus group interviews were held in each Commonwealth region to provide insight and information about M&S. Participating stakeholders represented academia, government and industry. Impact Analysis for Planning (IMPLAN®) and United States Bureau of Labor Statistics data were used for the economic and workforce analyses. The full report can be found online at the following websites:

ModSim Connected: modsimconnected.com

Secretary of Technology: technology.virginia.gov

